City of
FRESNO

Water Division • 209-498-1458
1910 East University • Fresno, California 93703-2988

December 28, 1994

Mr. Patrick Chan
United States Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105-3901

Dear Mr. Chan:

SUBJECT: SUMMER 1994 LEAD AND COPPER SAMPLING RESULTS

Attached are results of the lead and copper monitoring performed by the City of Fresno during the Summer 1994.

The City of Fresno's sample results did not exceed the action level for lead or copper with the 90th percentile samples.

The City of Fresno's water distribution system continues to be significantly below the EPA's action level for both lead and copper. Accordingly, it is requested that the next round of testing be resumed in the Summer of 1996, to monitor lead and copper for the EPA.

Sincerely,

DEPARTMENT OF PUBLIC UTILITIES

Martin R. McIntyre
Water Systems Manager

Enclosures

cc: William T. Hetland, Public Utilities Director
Daniel L. Trafican, Assistant Public Utilities Directorl
Cindy Forbes, California Department of Health Services

CITY OF FRESNO WATER DIVISION LEAD AND COPPER RULE

COMPLIANCE MONITORING RESULTS OF SUMMER 1994 MONITORING

INTRODUCTION

The United States Environmental Protection Agency (USEPA) promulgated National Primary Drinking Water Regulations for lead and copper monitoring on June 7, 1991, (56 FR26460), commonly referred to as the Lead and Copper Rule. This Rule requires that the City of Fresno monitor the water distribution system from the source to the point of delivery at the consumer's tap. Three specific monitoring protocols are included in the Lead and Copper Rule regulations:

1) First draw tap water monitoring for lead and copper
2) distribution system monitoring for various water quality parameters, and
3) source water monitoring for lead, copper, and various water quality parameters.

For the purposes of the Lead and Copper Rule monitoring requirements, the City of Fresno is classified as a large public water supplier. This classification is based upon the City's 98,000 service connections which supply potable water to some 450,000 customers.

SAMPLE SITE SELECTION

The City of Fresno utilized the same Tier 1-C sample pool of residences which were selected for the initial year of testing. (Two rounds of sampling and analysis for lead and copper were required for 1993 whereas only one round was required for 1994.) Eighteen of these residences were not sampled for 1994; two residents had installed water filtration/softening devices, seven

residents could not be contacted, and nine chose not to participate in this sampling. One resident had moved into another dwelling which met all the criteria for a sample site and was thus added to the sample pool. Samples were collected for 114 sites in the sample pool. Exhibit 1 presents the completed Sample Site Justification/Collection Method Certification form from the Lead and Copper Rule Guidance Manual. The residents performing the tap water sampling are listed in Table 1. Water quality sampling was performed at eight source locations and twenty-five distribution system locations. These water quality sample locations are in the same areas as the tap water sample sites and represent the sources and distribution system for all the tap water sample sites in the Tier 1-C sample pool. The locations of the water quality sample sites are listed in Table 2.

SAMPLE COLLECTION

The City of Fresno collected their 1994 samples in compliance with the Lead and Copper Rule during the period August 27 - September 15, 1994. Residents collecting tap water samples were given written instructions (Exhibit 2) along with their sample bottle.

TAP WATER SAMPLE RESULTS

Table 3 presents the results of the tap water analysis for lead and copper. The table lists the lead and copper concentrations in descending order. This was done in order to determine the 90th percentile levels as required by the Lead and Copper Rule.

Lead Results

The 90th percentile lead level was determined by multiplying the number of samples taken by 0.9

(114 x 0.9 = 103). The 90th percentile lead level for the City of Fresno samples is 0.0025 mg/L which is below the EPA action level of 0.015 mg/L. The laboratory analysis detection limit for lead is the following: values less than 0.001 mg/L are reported as 0 (zero); values between 0.0010 and 0.0049 are reported as 0.0025 mg/L; values greater than 0.005 mg/L are reported directly.

Copper Results

The 90th percentile copper level was determined in the same way as for lead. The 90th percentile copper level for the City of Fresno is 0.29 mg/L which is below the EPA action level of 1.3 mg/L. The laboratory analysis detection limit for copper is the following: values less than 0.01 mg/L are reported as 0 (zero); values between 0.010 and 0.049 mg/L are reported as 0.025 mg/L; values greater than 0.05 mg/L are reported directly.

DISTRIBUTION SYSTEM AND SOURCE SAMPLE RESULTS

Water quality analysis was performed on twenty-five distribution system locations and eight points of entry to the distribution system. The results of this analysis are summarized in Tables 4 and 5.

Both the lead and copper concentrations of the source water at all eight of the sample locations were 0 (zero) mg/L. The laboratory analysis detection limit for both lead and copper have both been previously explained.

FUTURE LEAD AND COPPER MONITORING

Upon completion of the second consecutive year of sampling for the Lead and Copper Rule, the City of Fresno's water distribution system continues to be significantly below the EPA's action level. Accordingly, it is requested that the next round of testing be resumed in the summer of 1996, to monitor lead and copper for the EPA.

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SAMPLE SITE JUSTIFICATION/COLLECTION METHOD CERTIFICATION

System's Name: City of Fresno Water Division Type: ☒ CWS ☐ NTNCWS

Address: 1910 E. University Ave.
Fresno, CA 93703

Size: ☒ >100,000
☐ 10,001 to 100,000
☐ 3,301 to 10,000
☐ 501 to 3,300
☐ 101 to 500
☐ ≤100

Telephone number: (209) 498-4136

System ID #: 10-007

Contact Person: Martin R. McIntyre

THE RESULTS OF LEAD AND COPPER TAP WATER SAMPLES MUST BE ATTACHED TO THIS DOCUMENT

# of samples required 100 # of samples submitted 114

TARGETING CRITERIA

# of single-family structures with copper pipes with lead solder installed after 1982 or lead pipes and/or lead service lines (Tier 1)	114
# of multi-family structures with copper pipes with lead solder installed after 1982 or lead pipes and/or lead service lines (Tier 1)	0
# of buildings containing copper pipes with lead solder installed after 1982 or lead pipes and/or lead service lines (Tier 2)	0
# of sites that contain copper pipes with lead solder installed before 1983 (to be used only if first condition has been exhausted) (Tier 3)	0
TOTAL	114

Explanation of Tier 2 and Tier 3 sites (attach additional pages if necessary)

LEAD SERVICE LINE SITES

# of samples required to be drawn from lead service line sites	0
# of samples actually drawn from lead service line sites	0
Difference (explain differences other than zero)	0

Method used to identify lead service line sites (attach additional pages if necessary):

THE RESULTS OF WATER QUALITY PARAMETER (WQP) SAMPLES MUST BE ATTACHED TO THIS DOCUMENT

# of samples required to be collected	25	# of WQP tap samples actually collected and submitted	25
# of WQP entry point samples required to be collected	8	# of WQP entry point samples actually collected and submitted	8

SAMPLE SITE JUSTIFICATION/COLLECTION METHOD CERTIFICATION

CERTIFICATION OF COLLECTION METHODS

I certify that:

Each first draw tap sample for lead and copper is one liter in volume and has stood motionless in the plumbing system of each sampling site for at least six hours.

Each first draw sample collected from a single-family residence has been collected from the cold water kitchen tap or bathroom sink tap.

Each first draw sample collected from a non-residential building has been collected at an interior tap from which water is typically drawn for consumption.

Each first-draw sample collected during an annual or triennial monitoring period has been collected in the months of June, July, August or September.

Each resident who volunteered to collect tap water samples from his or her home has been properly instructed by [insert water system's name] City of Fresno Water Division in the proper methods for collecting lead and copper samples. I do not challenge the accuracy of those sampling results. Enclosed is a copy of the material distributed to residents explaining the proper collection methods, and a list of the residents who performed sampling.

CHANGE OF SAMPLING SITE

Original site address:

New site address:

Distance between sites (approximately):

Targeting Criteria: NEW: OLD:

Reason for change (attach additional pages if necessary):

SIGNATURE Martin R. McIntyre

Martin R. McIntyre	Water Systems Manager	12-28-94
NAME	TITLE	DATE

Exhibit 2

DIRECTIONS--RESIDENT TAP SAMPLE COLLECTION PROCEDURES

These samples are being collected to determine the contribution of household fixtures and pipes and/or solder to the lead and copper levels in tap water. This sampling effort is required by the Environmental Protection Agency, and is being accomplished through the cooperation of homeowners and residents. The collection procedure is described in detail below:

1. On the day prior to collecting the sample thoroughly clean and remove all debris which may have accumulated inside the aerator of your kitchen tap water faucet. Run the tap for 1-2 minutes after cleaning so that no loose debris will impact sampling process.

2. Do not use any water for 6-8 hours on your premises prior to sampling. The Water Division recommends that either early mornings (after awakening) or early evenings (after returning from work) are the best sampling times to ensure that the proper water conditions exist.

3. The primary kitchen cold water faucet is to be used for sampling. The sample must be 100% from the cold water side of the tap; it can not be a mixture of water "dialed" from both hot and cold service lines. Place the open sample bottle below the faucet and gently open the cold water tap. Slowly fill the sample bottle to the base of the neck and turn off the water. It should take 45-60 seconds to fill the sample bottle.

4. Tightly cap the sample bottle and place in the plastic bag provided. Fill in the information requested below; sign the form and place in the plastic bag with the sample bottle. Please review the address label below at this time to ensure that all information contained on the label is correct.

5. Place the sample outside your home for pick-up by 9:00 AM.

6. Results from this monitoring effort will be provided to participating customers when reports are generated for the Environmental Protection Agency.

Please call Bill Dunn at 498-4136 if you have any questions regarding these instructions.
TO BE COMPLETED BY RESIDENT AND RETURNED WITH SAMPLE:

Water was last used: TIME_____ DATE_____

Sample was collected: TIME_____ DATE_____

I have read the above directions and have taken a tap sample in accordance with these directions.

PRINTED NAME_____ SIGNATURE_____
ADDRESS_____ PHONE_____

TO BE COMPLETED BY WATER DIVISION EMPLOYEE:
Sample picked up by_____ Time_____ Date_____
h:\prd\sproj\wq\lead\94sample.wp

TABLE 2 - Water Quality Parameter Sample Locations

Type of Location	System Identification Number	Location
Source	W-79	(b) (9) [redacted]
Source	W-86	
Source	W-91	
Source	W-97	
Source	W-99	
Source	W-131	
Source	W-140	
Source	W-KVDS	
Distribution	D-31	(b) (6) [redacted]
Distribution	D-34	
Distribution	D-36	
Distribution	D-66	
Distribution	D-68	
Distribution	D-69	
Distribution	D-70	
Distribution	D-76	
Distribution	D-79	
Distribution	D-81	
Distribution	D-82	
Distribution	D-116	
Distribution	D-117	
Distribution	D-126	
Distribution	D-128	
Distribution	D-129	
Distribution	D-130	
Distribution	D-133	
Distribution	D-134	
Distribution	D-155	
Distribution	D-156	
Distribution	D-158	
Distribution	D-159	
Distribution	D-181	
Distribution	D-202	

Table 3 - TAP WATER SAMPLE ANALYSIS - SUMMER 1994

Sample No.		Lead Ranking	Lead mg/L
154		132	0.012
4		131	0.006
132		130	0.006
135		129	0.006
93		128	0.005
175		127	0.005
1		126	0.003
2		125	0.003
11		124	0.003
46		123	0.003
56		122	0.003
65		121	0.003
74		120	0.003
75		119	0.003
78		118	0.003
90		117	0.003
92		116	0.003
102		115	0.003
109		114	0.003
116		113	0.003
117		112	0.003
119		111	0.003
127		110	0.003
133		109	0.003
136		108	0.003
148		107	0.003
149		106	0.003
152		105	0.003
155		104	0.003
157	90th	103	0.003
163		102	0.003
166		101	0.003
171		100	0.003
176		99	0.003
200		98	0.003
3		97	0
10		96	0
20		95	0
21		94	0
25		93	0
26		92	0
30		91	0
36		90	0
39		89	0
40		88	0
43		87	0
50		86	0
51		85	0

Table 3 - TAP WATER SAMPLE ANALYSIS - SUMMER 1994

52		84	0
54		83	0
55		82	0
57		81	0
58		80	0
60		79	0
61		78	0
62		77	0
63		76	0
64		75	0
66		74	0
67		73	0
69		72	0
71		71	0
76		70	0
79		69	0
80		68	0
81		67	0
83		66	0
84		65	0
86		64	0
87		63	0
88		62	0
95		61	0
98		60	0
100		59	0
105		58	0
110		57	0
111		56	0
112		55	0
113		54	0
114		53	0
115		52	0
118		51	0
120		50	0
122		49	0
124		48	0
125		47	0
126		46	0
129		45	0
130		44	0
131		43	0
134		42	0
137		41	0
139		40	0
140		39	0
141		38	0
142		37	0
143		36	0
144		35	0
145		34	0

Table 3 - TAP WATER SAMPLE ANALYSIS - SUMMER 1994

147		33	0
150		32	0
151		31	0
153		30	0
156		29	0
158		28	0
159		27	0
161		26	0
164		25	0
165		24	0
167		23	0
168		22	0
169		21	0
170		20	0
174		19	0
18		18	
27		17	
38		16	
41		15	
42		14	
48		13	
53		12	
72		11	
89		10	
91		9	
103		8	
107		7	
108		6	
123		5	
128		4	
146		3	
172		2	
173		1	

TABLE 3 - TAP WATER SAMPLE ANALYSIS - SUMMER 1994

Sample No.		Copper Ranking	Copper mg/L
153		132	0.72
137		131	0.54
166		130	0.54
176		129	0.49
155		128	0.47
50		127	0.45
133		126	0.45
81		125	0.44
175		124	0.43
150		123	0.42
200		122	0.42
143		121	0.4
174		120	0.39
148		119	0.37
152		118	0.37
92		117	0.36
151		116	0.36
156		115	0.36
171		114	0.36
132		113	0.34
10		112	0.32
90		111	0.32
168		110	0.32
169		109	0.32
127		108	0.31
129		107	0.31
159		106	0.31
88		105	0.3
145		104	0.3
130		103	0.29
2		102	0.28
115		101	0.28
142		100	0.28
149		99	0.28
136		98	0.27
26		97	0.26
51		96	0.26
102		95	0.26
65		94	0.25
135		93	0.25
1		92	0.24
83		91	0.24
164		90	0.24
139		89	0.23
46		88	0.22
78		87	0.22
79		86	0.22
93		85	0.22

TABLE 3 - TAP WATER SAMPLE ANALYSIS - SUMMER 1994

163		84	0.22
167		83	0.22
30		82	0.21
134		81	0.21
170		80	0.21
39		79	0.2
43		78	0.2
54		77	0.2
100		76	0.2
147		75	0.2
161		74	0.2
67		73	0.19
80		72	0.19
109		71	0.19
112		70	0.19
21		69	0.18
55		68	0.18
117		67	0.18
157		66	0.18
165		65	0.18
58		64	0.17
62		63	0.17
76		62	0.17
113		61	0.17
124		60	0.17
11		59	0.16
64		58	0.16
71		57	0.16
114		56	0.16
125		55	0.16
20		54	0.15
52		53	0.15
98		52	0.15
110		51	0.15
66		50	0.14
95		49	0.14
141		48	0.14
63		47	0.13
74		46	0.13
86		45	0.13
158		44	0.13
25		43	0.12
56		42	0.12
75		41	0.12
111		40	0.12
144		39	0.12
87		38	0.11
119		37	0.11
126		36	0.11
40		35	0.1
122		34	0.085

TABLE 3 - TAP WATER SAMPLE ANALYSIS - SUMMER 1994

36		33	0.08
61		32	0.08
120		31	0.073
4		30	0.07
131		29	0.07
57		28	0.068
3		27	0.062
69		26	0.06
60		25	0.025
84		24	0.025
105		23	0.025
116		22	0.025
118		21	0.025
140		20	0.025
154		19	0.025
18		18	
27		17	
38		16	
41		15	
42		14	
48		13	
53		12	
72		11	
89		10	
91		9	
103		8	
107		7	
108		6	
123		5	
128		4	
146		3	
172		2	
173		1	

TABLE 4 - DISTRIBUTION SYSTEM WATER QUALITY ANALYSIS
Samples Taken 09/09/94 - 09/12/94

Sample No.	Alkalinity (mg/L CaCO3)	Calcium (mg/l)	ph	Temp. (deg C)	Cond (mS/cm)
D-31	130	24	7.28	22.4	0.28
D-34	85	17	7.52	25.2	0.2
D-36	100	24	7.39	24.1	0.27
D-66	93	20	7.25	25.1	0.23
D-68	120	24	7.26	24.8	0.27
D-69	120	24	7.02	23.3	0.27
D-70	95	20	7.16	24.8	0.22
D-76	120	26	7.13	25.1	0.27
D-79	95	21	7.28	21.7	0.24
D-81	100	22	7.27	26.1	0.25
D-82	97	19	7.25	24.9	0.23
D-116	110	24	6.92	26.7	0.28
D-117	110	21	7.12	26.1	0.23
D-126	95	20	7.23	24.7	0.22
D-128	170	32	7	23.7	0.37
D-129	99	21	7.32	24.9	0.25
D-130	130	25	7.29	25.9	0.28
D-133	89	17	7.48	22.9	0.21
D-134	83	18	7.45	24.9	0.22
D-155	85	17	7.15	24.3	0.2
D-156	140	27	7.01	24.1	0.33
D-158	150	28	7	24.9	0.33
D-159	150	30	6.98	25.8	0.34
D-181	85	17	7.28	23.8	0.2
D-202	140	38	7.1	23.2	0.41
Average	111.64	23.04	7.21	24.5	0.26
Minimum	83	17	6.92	21.7	0.2
Maximum	170	38	7.52	26.7	0.41

TABLE 5. SOURCE WATER QUALITY ANALYSIS
Samples Taken 09/16/94

Sample No.	Lead (mg/L)	Copper (mg/l)	Alkalinity (mg/L CaCO3)	Calcium (mg/L)	pH	Temp. (deg C)	Cond. (mS/cm)
W-79	0	0	120	26	7.38	22	0.3
W-86	0	0	130	28	7.35	22.7	0.3
W-91	0	0	100	22	7.53	21.9	0.25
W-97	0	0	130	28	7.36	22.5	0.32
W-99	0	0	87	17	7.73	22.5	0.22
W-131	0	0	99	19	7.76	24	0.22
W-140	0	0	120	39	7.15	23.9	0.45
WKVDS	0	0	100	25	7.42	23	0.25
Average	0	0	110.75	25.5	7.46	22.81	0.289
Minimum	0	0	87	17	7.15	21.9	0.22
Maximum	0	0	130	39	7.76	24	0.45

CITY OF FRESNO WATER DIVISION LEAD AND COPPER RULE COMPLIANCE MONITORING RESULTS OF SUMMER 1994 MONITORING

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94lead

TAP WATER SAMPLE ANALYSIS

Tract		Lead Ranking	Sample No.	Lead mg/L
b		132	154	0.012
f		131	4	0.006
b		130	132	0.006
b		129	135	0.006
d		128	93	0.005
b		127	175	0.005
a		126	1	0.0025
a		125	2	0.0025
b		124	11	0.0025
d		123	46	0.0025
c		122	56	0.0025
d		121	65	0.0025
c		120	74	0.0025
d		119	75	0.0025
c		118	78	0.0025
d		117	90	0.0025
d		116	92	0.0025
c		115	102	0.0025
c		114	109	0.0025
d		113	116	0.0025
d		112	117	0.0025
d		111	119	0.0025
b		110	127	0.0025
b		109	133	0.0025
b		108	136	0.0025
b		107	148	0.0025
b		106	149	0.0025
b		105	152	0.0025
b		104	155	0.0025
b	90th %	103	157	0.0025
d		102	163	0.0025
b		101	166	0.0025
b		100	171	0.0025
b		99	176	0.0025
b		98	200	0.0025
a		97	3	0
a		96	10	0
d		95	20	0
e		94	21	0
c		93	25	0
d		92	26	0
c		91	30	0
c		90	36	0
d		89	39	0
c		88	40	0
d		87	43	0

TAP WATER SAMPLE ANALYSIS

Tract		Lead Ranking	Sample No.	Lead mg/L
d		86	50	0
e		85	51	0
c		84	52	0
e		83	54	0
d		82	55	0
c		81	57	0
c		80	58	0
c		79	60	0
c		78	61	0
c		77	62	0
c		76	63	0
e		75	64	0
c		74	66	0
e		73	67	0
c		72	69	0
c		71	71	0
d		70	76	0
c		69	79	0
e		68	80	0
e		67	81	0
e		66	83	0
d		65	84	0
c		64	86	0
c		63	87	0
d		62	88	0
e		61	95	0
c		60	98	0
c		59	100	0
c		58	105	0
c		57	110	0
c		56	111	0
c		55	112	0
e		54	113	0
d		53	114	0
d		52	115	0
d		51	118	0
d		50	120	0
c		49	122	0
c		48	124	0
c		47	125	0
c		46	126	0
b		45	129	0
b		44	130	0
b		43	131	0
b		42	134	0
b		41	137	0

TAP WATER SAMPLE ANALYSIS

Tract		Lead Ranking	Sample No.	Lead mg/L
b		40	139	0
b		39	140	0
b		38	141	0
b		37	142	0
b		36	143	0
f		35	144	0
b		34	145	0
b		33	147	0
b		32	150	0
b		31	151	0
b		30	153	0
b		29	156	0
f		28	158	0
b		27	159	0
b		26	161	0
e		25	164	0
c		24	165	0
b		23	167	0
b		22	168	0
b		21	169	0
b		20	170	0
b		19	174	0
b		18	18	
e		17	27	
c		16	38	
e		15	41	
e		14	42	
e		13	48	
c		12	53	
d		11	72	
c		10	89	
c		9	91	
c		8	103	
e		7	107	
c		6	108	
c		5	123	
b		4	128	
b		3	146	
b		2	172	
b		1	173	

TAP WATER SAMPLE ANALYSIS

Tract		Copper Ranking	Sample No.	Copper mg/L
b		132	153	0.72
b		131	166	0.54
b		130	137	0.54
b		129	176	0.49
b		128	155	0.47
b		127	133	0.45
d		126	50	0.45
e		125	81	0.44
b		124	175	0.43
b		123	200	0.42
b		122	150	0.42
b		121	143	0.4
b		120	174	0.39
b		119	148	0.37
b		118	152	0.37
d		117	92	0.36
b		116	171	0.36
b		115	151	0.36
b		114	156	0.36
b		113	132	0.34
d		112	90	0.32
a		111	10	0.32
b		110	168	0.32
b		109	169	0.32
b		108	127	0.31
b		107	129	0.31
b		106	159	0.31
d		105	88	0.3
b		104	145	0.3
b	90th %	103	130	0.29
a		102	2	0.28
b		101	149	0.28
d		100	115	0.28
b		99	142	0.28
b		98	136	0.27
c		97	102	0.26
d		96	26	0.26
e		95	51	0.26
b		94	135	0.25
d		93	65	0.25
a		92	1	0.24
e		91	83	0.24
e		90	164	0.24
b		89	139	0.23
d		88	93	0.22
d		87	46	0.22

TAP WATER SAMPLE ANALYSIS

Tract		Copper Ranking	Sample No.	Copper mg/L
c		86	78	0.22
d		85	163	0.22
c		84	79	0.22
b		83	167	0.22
c		82	30	0.21
b		81	134	0.21
b		80	170	0.21
d		79	39	0.2
d		78	43	0.2
e		77	54	0.2
c		76	100	0.2
b		75	147	0.2
b		74	161	0.2
c		73	109	0.19
e		72	67	0.19
e		71	80	0.19
c		70	112	0.19
d		69	117	0.18
b		68	157	0.18
e		67	21	0.18
d		66	55	0.18
c		65	165	0.18
c		64	58	0.17
c		63	62	0.17
d		62	76	0.17
e		61	113	0.17
c		60	124	0.17
b		59	11	0.16
e		58	64	0.16
c		57	71	0.16
d		56	114	0.16
c		55	125	0.16
d		54	20	0.15
c		53	52	0.15
c		52	98	0.15
c		51	110	0.15
c		50	66	0.14
e		49	95	0.14
b		48	141	0.14
c		47	74	0.13
c		46	63	0.13
c		45	86	0.13
f		44	158	0.13
c		43	56	0.12
d		42	75	0.12
c		41	25	0.12

TAP WATER SAMPLE ANALYSIS

Tract		Copper Ranking	Sample No.	Copper mg/L
c		40	111	0.12
f		39	144	0.12
d		38	119	0.11
c		37	87	0.11
c		36	126	0.11
c		35	40	0.1
c		34	122	0.085
c		33	36	0.08
c		32	61	0.08
d		31	120	0.073
f		30	4	0.07
b		29	131	0.07
c		28	57	0.068
a		27	3	0.062
c		26	69	0.06
b		25	154	0.025
d		24	116	0.025
c		23	60	0.025
d		22	84	0.025
c		21	105	0.025
d		20	118	0.025
b		19	140	0.025
b		18	18	
e		17	27	
c		16	38	
e		15	41	
e		14	42	
e		13	48	
c		12	53	
d		11	72	
c		10	89	
c		9	91	
c		8	103	
e		7	107	
c		6	108	
c		5	123	
b		4	128	
b		3	146	
b		2	172	
b		1	173	

TABLE 4. DISTRIBUTION SYSTEM WATER QUALITY ANALYSIS
Samples Taken 09/09/94 - 09/12/94

Sample No.	Alkalinity (mg/L CaCO3)	Calcium (mg/l)	ph	Temp. (deg C)	Cond (mS/cm)
D-31	130	24	7.28	22.4	0.28
D-34	85	17	7.52	25.2	0.2
D-36	100	24	7.39	24.1	0.27
D-66	93	20	7.25	25.1	0.23
D-68	120	24	7.26	24.8	0.27
D-69	120	24	7.02	23.3	0.27
D-70	95	20	7.16	24.8	0.22
D-76	120	26	7.13	25.1	0.27
D-79	95	21	7.28	21.7	0.24
D-81	100	22	7.27	26.1	0.25
D-82	97	19	7.25	24.9	0.23
D-116	110	24	6.92	26.7	0.28
D-117	110	21	7.12	26.1	0.23
D-126	95	20	7.23	24.7	0.22
D-128	170	32	7	23.7	0.37
D-129	99	21	7.32	24.9	0.25
D-130	130	25	7.29	25.9	0.28
D-133	89	17	7.48	22.9	0.21
D-134	83	18	7.45	24.9	0.22
D-155	85	17	7.15	24.3	0.2
D-156	140	27	7.01	24.1	0.33
D-158	150	28	7	24.9	0.33
D-159	150	30	6.98	25.8	0.34
D-181	85	17	7.28	23.8	0.2
D-202	140	38	7.1	23.2	0.41
Average	111.64	23.04	7.21	24.5	0.26
Minimum	83	17	6.92	21.7	0.2
Maximum	170	38	7.52	26.7	0.41

TABLE 5. SOURCE WATER QUALITY ANALYSIS
Samples Taken 09/16/94

Sample No.	Lead (mg/L)	Copper (mg/l)	Alkalinity (mg/L CaCO3)	Calcium (mg/L)	pH	Temp. (deg C)	Cond. (mS/cm)
W-79	0	0	120	26	7.38	22	0.3
W-86	0	0	130	28	7.35	22.7	0.3
W-91	0	0	100	22	7.53	21.9	0.25
W-97	0	0	130	28	7.36	22.5	0.32
W-99	0	0	87	17	7.73	22.5	0.22
W-131	0	0	99	19	7.76	24	0.22
W-140	0	0	120	39	7.15	23.9	0.45
WKVDS	0	0	100	25	7.42	23	0.25
Average	0	0	110.75	25.5	7.46	22.81	0.289
Minimum	0	0	87	17	7.15	21.9	0.22
Maximum	0	0	130	39	7.76	24	0.45

Source	W-79	(b) (9) [redacted]
Source	W-86	
Source	W-91	
Source	W-97	
Source	W-99	
Source	W-131	
Source	W-140	
Source	W-KVDS	
Distribution	D-31	(b) (6) [redacted]
Distribution	D-34	
Distribution	D-36	
Distribution	D-66	
Distribution	D-68	
Distribution	D-69	
Distribution	D-70	
Distribution	D-76	
Distribution	D-79	
Distribution	D-81	
Distribution	D-82	
Distribution	D-116	
Distribution	D-117	
Distribution	D-126	
Distribution	D-128	
Distribution	D-129	
Distribution	D-130	
Distribution	D-133	
Distribution	D-134	
Distribution	D-155	
Distribution	D-156	
Distribution	D-158	
Distribution	D-159	
Distribution	D-181	
Distribution	D-202	

FRESNO LEAD & COPPER RULE

DISTRIBUTION & WELL SAMPLE FIELD LOG

LOCATION: D-202 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = E.C

Date = 9-9-94 Time = 12:00

pH = 7.10

Temp. = 23.2 deg C

Conductivity = .41 mS/cm

LOCATION: D-129 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = E.C

Date = 9-9-94 Time = 12:30

pH = 7.32

Temp. = 24.9 deg C

Conductivity = .25 mS/cm

LOCATION: D-181 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = E.C

Date = 9-9-94 Time = 12:50

pH = 7.28

Temp. = 23.8 deg C

Conductivity = .20 mS/cm

FRESNO LEAD & COPPER RULE

DISTRIBUTION & WELL SAMPLE FIELD LOG

LOCATION: D-156 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-9-94 Time = 1:50

pH = 7.01

Temp. = 24.1 deg C

Conductivity = .33 mS/cm

LOCATION: D-158 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-9-94 Time = 2:05

pH = 7.00

Temp. = 24.9 deg C

Conductivity = .33 mS/cm

LOCATION: D-159 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-9-94 Time = 2:25

pH = 6.98

Temp. = 25.8 deg C

Conductivity = .34 mS/cm

FRESNO LEAD & COPPER RULE

DISTRIBUTION & WELL SAMPLE FIELD LOG

LOCATION: D-155 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-9-94 Time = 2:40

pH = 7.15

Temp. = 24.3 deg C

Conductivity = .20 mS/cm

LOCATION: D-68 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-9-94 Time = 2:55

pH = 7.26

Temp. = 24.8 deg C

Conductivity = .27 mS/cm

LOCATION: _____ (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = _____

Date = _____ Time = _____

pH = _____

Temp. = _____ deg C

Conductivity = _____ mS/cm

FRESNO LEAD & COPPER RULE

DISTRIBUTION & WELL SAMPLE FIELD LOG

LOCATION: D-36 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = E.C.

Date = 9/9/94 Time = 8:35

pH = 7.39

Temp. = 24.1 deg C

Conductivity = .27 mS/cm

LOCATION: D-133 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9/9/94 Time = 8:55

pH = 7.48

Temp. = 22.9 deg C

Conductivity = .21 mS/cm

LOCATION: D-134 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-9-94 Time = 9:15

pH = 7.45

Temp. = 24.9 deg C

Conductivity = .22 mS/cm

FRESNO LEAD & COPPER RULE

DISTRIBUTION & WELL SAMPLE FIELD LOG

LOCATION: D-126 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = E.C

Date = 9-12-94 Time = 12:30

pH = 7.23

Temp. = 24.7 deg C

Conductivity = .22 mS/cm

LOCATION: D-130 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = E.C

Date = 9-12-94 Time = 1:15

pH = 7.29

Temp. = 25.9 deg C

Conductivity = .28 mS/cm

LOCATION: _____ (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = _____

Date = _____ Time = _____

pH = _____

Temp. = _____ deg C

Conductivity = _____ mS/cm

FRESNO LEAD & COPPER RULE

DISTRIBUTION & WELL SAMPLE FIELD LOG

LOCATION: D-117 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-12-94 Time = 10:40

pH = 7.12

Temp. = 26.1 deg C

Conductivity = .23 mS/cm

LOCATION: D-70 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = E.C

Date = 9-12-94 Time = 11:00

pH = 7.16

Temp. = 24.8 deg C

Conductivity = .22 mS/cm

LOCATION: D-76 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-12-94 Time = 11:45

pH = 7.13

Temp. = 25.1 deg C

Conductivity = .27 mS/cm

FRESNO LEAD & COPPER RULE

DISTRIBUTION & WELL SAMPLE FIELD LOG

LOCATION: D-79 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-12-94 Time = 9:20

pH = 7.28

Temp. = 21.7 deg C

Conductivity = .24 mS/cm

LOCATION: D-116 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-12-94 Time = 10:00

pH = 6.92

Temp. = 26.7 deg C

Conductivity = .28 mS/cm

LOCATION: D-69 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-12-94 Time = 10:20

pH = 7.02

Temp. = 23.3 deg C

Conductivity = .27 mS/cm

FRESNO LEAD & COPPER RULE

DISTRIBUTION & WELL SAMPLE FIELD LOG

LOCATION: D-82 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-9-94 Time = 10:15

pH = 7.25

Temp. = 24.9 deg C

Conductivity = .23 mS/cm

LOCATION: D-81 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-9-94 Time = 10:45

pH = 7.27

Temp. = 26.1 deg C

Conductivity = .25 mS/cm

LOCATION: D-34 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-9-94 Time = 11:45

pH = 7.52

Temp. = 25.2 deg C

Conductivity = .20 mS/cm

FRESNO LEAD & COPPER RULE

DISTRIBUTION & WELL SAMPLE FIELD LOG

LOCATION: D-66 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-9-94 Time = 1:10

pH = 7.25

Temp. = 25.1 deg C

Conductivity = .23 mS/cm

LOCATION: D-31 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-9-94 Time = 1:25

pH = 7.28

Temp. = 22.4 deg C

Conductivity = .28 mS/cm

LOCATION: D-128 (W-## = WELL SITE)
(D-## = DISTRIBUTION SYSTEM SITE)

Samplers Initials = EC

Date = 9-9-94 Time = 1:40

pH = 7.00

Temp. = 23.7 deg C

Conductivity = .37 mS/cm

BSK ANALYTICAL LABORATORIES

Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942684
Lab ID Number : 2684-4
Project Number : None
Sample Description: D-82

Date Sampled : 09/09/94
Time Sampled : 1015
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	97	mg/L	1
EPA 6010	Calcium (Ca).....	19	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

Cynthia Pigman, QA/QC Supervisor

Jeffrey J. Koelewyn, Inorganics Manager

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BSK ANALYTICAL LABORATORIES

Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942684
Lab ID Number : 2684-5
Project Number : None
Sample Description: D-81

Date Sampled : 09/09/94
Time Sampled : 1045
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	100	mg/L	1
EPA 6010	Calcium (Ca).....	22	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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BSK ANALYTICAL LABORATORIES

Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942684
Lab ID Number : 2684-6
Project Number : None
Sample Description: D-34

Date Sampled : 09/09/94
Time Sampled : 1145
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	85	mg/L	1
EPA 6010	Calcium (Ca).....	17	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

Cynthia Pigman, QA/QC Supervisor

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BSK ANALYTICAL LABORATORIES

Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942684
Lab ID Number : 2684-7
Project Number : None
Sample Description: D-202

Date Sampled : 09/09/94
Time Sampled : 1200
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	140	mg/L	1
EPA 6010	Calcium (Ca).....	38	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

Cynthia Pigman, QA/QC Supervisor

Jeffrey J. Koelewyn, Inorganics Manager

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BSK ANALYTICAL LABORATORIES

Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942684
Lab ID Number : 2684-8
Project Number : None
Sample Description: D-129

Date Sampled : 09/09/94
Time Sampled : 1230
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	99	mg/L	1
EPA 6010	Calcium (Ca).....	21	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

Cynthia Pigman, QA/QC Supervisor

Jeffrey J. Koelewyn, Inorganics Manager

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BSK ANALYTICAL LABORATORIES

Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942684
Lab ID Number : 2684-9
Project Number : None
Sample Description: D-181

Date Sampled : 09/09/94
Time Sampled : 1250
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	85	mg/L	1
EPA 6010	Calcium (Ca).....	17	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

Cynthia Pigman, QA/QC Supervisor

Jeffrey J. Koelewyn, Inorganics Manager

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BSK ANALYTICAL LABORATORIES

Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942684
Lab ID Number : 2684-10
Project Number : None
Sample Description: D-66

Date Sampled : 09/09/94
Time Sampled : 1310
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	93	mg/L	1
EPA 6010	Calcium (Ca).....	20	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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BSK ANALYTICAL LABORATORIES

Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942684
Lab ID Number : 2684-11
Project Number : None
Sample Description: D-31

Date Sampled : 09/09/94
Time Sampled : 1325
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	130	mg/L	1
EPA 6010	Calcium (Ca).....	24	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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ANALYTICAL LABORATORIES

no City Water Division
: Doug Kirk
E. University Avenue
no, CA 93703

Date Sampled : 09/09/94
Time Sampled : 1340
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Number : Ch942684
ID Number : 2684-12
ect Number : None
le Description: D-28

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

ethod No.	Analyte	Results	Units	DLR
PA 310.1	Alkalinity (CaCO3).....	170	mg/L	1
PA 6010	Calcium (Ca).....	32	mg/L	0.1

one Detected
t Analyzed
ligrams per Liter

Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C

DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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BSK ANALYTICAL LABORATORIES

Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942684
Lab ID Number : 2684-13
Project Number : None
Sample Description: D-156

Date Sampled : 09/09/94
Time Sampled : 1350
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	140	mg/L	1
EPA 6010	Calcium (Ca).....	27	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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ANALYTICAL LABORATORIES

o City Water Division
Doug Kirk
E. University Avenue
o, CA 93703

Date Sampled : 09/09/94
Time Sampled : 1405
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Number : Ch942684
D Number : 2684-14
ect Number : None
e Description: D-158

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

thod No.	Analyte	Results	Units	DLR
A 310.1	Alkalinity (CaCO3).....	150	mg/L	1
A 6010	Calcium (Ca).....	28	mg/L	0.1

one Detected
ot Analyzed
igrams per Liter

Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C

DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

hia Pigman, QA/QC Supervisor

Jeffrey J. Koelewyn, Inorganics Manager

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Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942684
Lab ID Number : 2684-15
Project Number : None
Sample Description: D-159

Date Sampled : 09/09/94
Time Sampled : 1425
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	150	mg/L	1
EPA 6010	Calcium (Ca).....	30	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942684
Lab ID Number : 2684-16
Project Number : None
Sample Description: D-155

Date Sampled : 09/09/94
Time Sampled : 1440
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	85	mg/L	1
EPA 6010	Calcium (Ca).....	17	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942684
Lab ID Number : 2684-17
Project Number : None
Sample Description: D-68

Date Sampled : 09/09/94
Time Sampled : 1455
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	120	mg/L	1
EPA 6010	Calcium (Ca).....	24	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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BSK ANALYTICAL LABORATORIES

Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942692
Lab ID Number : 2692-1
Project Number : None
Sample Description: D-79

Date Sampled : 09/12/94
Time Sampled : 0920
Date Received : 09/12/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	95	mg/L	1
EPA 6010	Calcium (Ca).....	21	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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BSK ANALYTICAL LABORATORIES

Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942692
Lab ID Number : 2692-2
Project Number : None
Sample Description: D-116

Date Sampled : 09/12/94
Time Sampled : 1000
Date Received : 09/12/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	110	mg/L	1
EPA 6010	Calcium (Ca).....	24	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942692
Lab ID Number : 2692-3
Project Number : None
Sample Description: D-69

Date Sampled : 09/12/94
Time Sampled : 1020
Date Received : 09/12/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	120	mg/L	1
EPA 6010	Calcium (Ca).....	24	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942692
Lab ID Number : 2692-4
Project Number : None
Sample Description: D-117

Date Sampled : 09/12/94
Time Sampled : 1040
Date Received : 09/12/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	110	mg/L	1
EPA 6010	Calcium (Ca).....	21	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942692
Lab ID Number : 2692-5
Project Number : None
Sample Description: D-70

Date Sampled : 09/12/94
Time Sampled : 1100
Date Received : 09/12/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	95	mg/L	1
EPA 6010	Calcium (Ca).....	20	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942692
Lab ID Number : 2692-6
Project Number : None
Sample Description: D-76

Date Sampled : 09/12/94
Time Sampled : 1145
Date Received : 09/12/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	120	mg/L	1
EPA 6010	Calcium (Ca).....	26	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942692
Lab ID Number : 2692-7
Project Number : None
Sample Description: D-126

Date Sampled : 09/12/94
Time Sampled : 1230
Date Received : 09/12/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	95	mg/L	1
EPA 6010	Calcium (Ca).....	20	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942692
Lab ID Number : 2692-8
Project Number : None
Sample Description: D-130

Date Sampled : 09/12/94
Time Sampled : 1315
Date Received : 09/12/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	130	mg/L	1
EPA 6010	Calcium (Ca).....	25	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942684
Lab ID Number : 2684-1
Project Number : None
Sample Description: D-36

Date Sampled : 09/09/94
Time Sampled : 0835
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	100	mg/L	1
EPA 6010	Calcium (Ca).....	24	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942684
Lab ID Number : 2684-2
Project Number : None
Sample Description: D-133

Date Sampled : 09/09/94
Time Sampled : 0855
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	89	mg/L	1
EPA 6010	Calcium (Ca).....	17	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

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Fresno City Water Division
Attn: Doug Kirk
1910 E. University Avenue
Fresno, CA 93703

Case Number : Ch942684
Lab ID Number : 2684-3
Project Number : None
Sample Description: D-134

Date Sampled : 09/09/94
Time Sampled : 0915
Date Received : 09/09/94
Report Reissue Date: 11/02/94

Sample Type: LIQUID

Analyses for Selected Inorganic Constituents

Method No.	Analyte	Results	Units	DLR
EPA 310.1	Alkalinity (CaCO3).....	83	mg/L	1
EPA 6010	Calcium (Ca).....	18	mg/L	0.1

ND: None Detected
--: Not Analyzed
mg/L: Milligrams per Liter
Std: Standard Units
µmhos/cm: Micromhos per Centimeter at 25°C
DLR: Detection Limit for the Purposes of Reporting. Exceptional sample conditions or matrix interferences may result in higher detection limits.

Cynthia Pigman, QA/QC Supervisor

Jeffrey J. Koelewyn, Inorganics Manager

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Sample Activity Form

City of Fresno, Water Division 1910 E. University Ave., 93703

Sampled by Ed Corrales Relinquished by _____ Date 9/9/94 Time ___:___ AM PM

Received by Arnold Harrison Date: 9/9/94 Time: 15:15 AM PM

Laboratory: BSK Lab Reference: _____ No of Samples

Sample Detail

#	Date	Time	Type	Location Description	502.2	504	505	507	508	508A	515.1	525	531.1	547	548	549	550	THM'S	504 LD	G-1	F	N	LD-AR	GRS-ALHPA	RADON	ASBESTOS	OTHER (Calcium)	OTHER (Alkalinity)
	9/9/94	8:35	M	D-36																							X	X
	9/9/94	8:55	M	D-133																							X	X
	9-9-94	9:15	M	D-134																							X	X
	9-9-94	10:15	M	D-82																							X	X
	9-9-94	10:45	M	D-81																							X	X
	9-9-94	11:45	M	D-34																							X	X
	9-9-94	12:00	M	D-202																							X	X
	9-9-94	12:30	M	D-129																							X	X
	9-9-94	12:50	M	D-181																							X	X
	9-9-94	1:10	M	D-66																							X	X
	9-9-94	1:25	M	D-31																							X	X
	9-9-94	1:40	M	D-128																							X	X
	9-9-94	1:50	M	D-156																							X	X

G-1 General Mineral, Physical, Inorganic Chemical
F Fluoride
N Nitrates

LD-AR Low Detection Arsenic
LD-504 Low Detection DBCP

BSK Log #: 2284
Sample Seal: A
Containers: I D L
S L G

h:\prd\wtqual\coc-1

Sample Activity Form

City of Fresno, Water Division 1910 E. University Ave., 93703

Sampled by ED Corrales Relinquished by _____ Date 9/9/94 Time ___:___ AM PM

Received by Janice Johnson Date: 9/9/94 Time: 15:15 AM PM

Laboratory: BSK Lab Lab Reference: _____ No of Samples

Sample Detail

#	Date	Time	Type	Location Description	502.2	504	505	507	508	508A	515.1	525	531.1	547	548	549	550	THM'S	504 LD	G-1	F	N	LD-AR	GRS-ALHPA	RADON	ASBESTOS	OTHER (CNLCI M)	OTHER (ALKALINITY)
	9-9-94	2:05	M	D-158																							X	X
	9-9-94	2:25	M	D-159																							X	X
	9-9-94	2:40	M	D-155																							X	X
	9-9-94	2:55	M	D-68																							X	X

G-1 General Mineral, Physical, Inorganic Chemical
F Fluoride
N Nitrates

LD-AR Low Detection Arsenic
LD-504 Low Detection DBCP

BSK Log #: 2684
Sample Set: A B
Containers: L

T S L G
Del Date:

h:\prd\wtqual\coc-1